

**ECG of the Month**

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**1 : Sick sinus syndrome and Atrial fibrillation**

**ECG 1A :**



**ECG 1B :**



50 year old female patient presented with history of episodes of intermittent palpitation, giddiness since 2-3 years. Her Echocardiography and Coronary Angiography were normal. Following were her ECGs recorded during these episodes and similar tracings were recorded on Holter.

ECG 1A shows Normal sinus rhythm, a sinus pause of 1.5 sec, at the other presentation she had atrial fibrillation with Heart rate of 100/min as seen in ECG 1B.

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Patient had sick sinus syndrome presenting as Bradycardia-tachycardia syndrome which is a relatively uncommon variant of sick sinus syndrome in which slow arrhythmias and fast arrhythmias alternate. She had sinus pauses and atrial fibrillation. Atrial Fibrillation in Sick Sinus Syndrome almost always has controlled ventricular rate. Because both bradyarrhythmias and tachyarrhythmias may be present, drugs to control tachyarrhythmia may exacerbate bradyarrhythmia. Therefore, a pacemaker is implanted before drug therapy is begun for the tachyarrhythmia. The Pacemaker Implantation would take care of the sinus pauses but for Atrial fibrillation for rate control diltiazem was added after patient was put on Permanent pacemaker (VVI).

**References :**

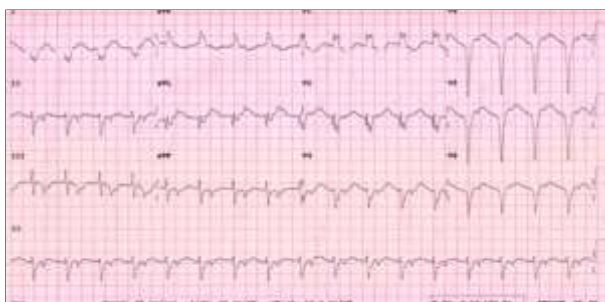
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**2 : Slow VT, RBBB with VA Conduction**

**ECG 2A :**



**ECG 2B :**



A 24 year old female patient with structurally normal Heart on Cardiac evaluation presented with history of recurrent palpitation and breathlessness. She remained asymptomatic in between the episodes. Echo at the time of palpitation showed Left Ventricular Dysfunction.

**ECG 2A** showed Normal sinus rhythm with intermittent runs of Ventricular Tachycardia. **ECG 2B** shows Slow VT, RBBB with VA conduction with negative polarity in inferior Leads and QRS negative in Lead I and avL indicating origin from Posteroanterior aspect of Left ventricle.

As arrhythmias are frequently the result of cardiomyopathy, they are easily overlooked as the potential cause. It is vital to recognise tachycardiomyopathy, as control of the tachyarrhythmia usually results in resolution of the cardiomyopathy. It is atrial arrhythmias which are commonly associated with Tachycardiomyopathies and Ventricular Tachycardia induced Tachycardiomyopathies are rare variants.

The rate of VT here was slow for Ventricular tachycardia possibly because of inadequate control of cordorone over the rhythm. Patient had Recurrent Ventricular Tachycardia with episodic Left Ventricular dysfunction which recovered on VT control suggesting Tachycardiomyopathy. Patient was advised EP Study and Implantable cardiac defibrillator.

**References :**

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